Claims :

1. A novel assay to screen for anti-malarial drugs by testing for the binding of the test compound with plasmodium 90kDa heat shock protein which comprises:

a) Covalent immobilization of the test compound on suitable matrices such as Sepharose or BIAcore CM5 sensor chips by known methods;

b) Preparation of saponin-freed Plasmodial trophozoite lysate by known methods;

c) Reacting the trophozoite lysate with the covalently immobilized test compound, and

d) Detection of the compound bound Plasmodial 90kDa heat shock protein by known methods.

2. A novel assay as claimed in claim 1, wherein the compound bound Plasmodial 90 kDa heat shock protein is detected by known immunochemical methods.

3. A novel assay as claimed in claim 1, wherein the compound bound Plasmodial 90 kDa heat shock protein is detected by known radiometric methods such as 2D gel electrophoresis and fluorography.

4. A novel assay as claimed in claim 1, wherein solid phase matrix such as BIAcore 2000™ is used to perform the assay.

5. A novel assay as claimed in claim 4, wherein the assay performed on solid matrix such as BIAcore 2000™ comprises of the following steps:

a) Compounds that can be derivatized with amine groups are covalently immobilized on the research CM5 sensor chips at a concentration of 20 mM in 8% DMSO using the amine coupling kit (1-ethyl-3- (dimethylaminopropyl) carbodiimide, (N-hydroxysuccinimide);

b) The unreacted moieties on the surface being blocked with 1M ethanolamine;

c) The surface was regenerated by a 50 s pulse of 0.5% SDS flowing at 10μL/min;

d) Saponin released trophozoites of *P. falciparum* being lysed in an equal volume of TNESV buffer for binding analysis;

e) The lysate being clarified by centrifugation at 20,000 g for 20 min. and

f) Binding is evaluated by passing the parasite lysate at a flow rate of 1μL/min in TNESV buffer and measuring the change in refractive index as response units.

6. A novel assay as claimed in any one of the preceding claims, wherein for compounds of unknown structure, derivatization is done with biotin using photobiotin acetate followed by BIAcore analysis using the BIAcore SA chip that carries a streptavidin surface.